Exercise Workbook

Interpreting and Using Your Data

Spring 2005 Regional Workshops

Putting Your **Healthy Youth Survey** Results to Work

Contents

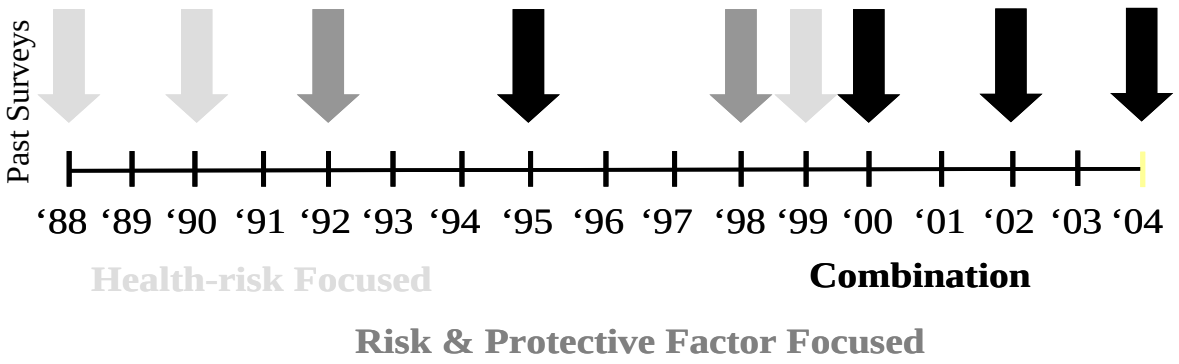
Section 1

Background of HYS 2004

Learning Objective	Develop understanding of the history and contents of the Healthy Youth Survey.

History of Washington's Youth Survey Efforts 6

School-based youth health and risk surveys have been conducted in Washington since 1988.



The surveys in 1988, 1990, and 1999 had a health-risk focus, whereas surveys in 1992 and 1998 were centered around risk and protective factors. More recent versions of the survey—1995, 2000, 2002 and 2004—are a combination of both.

Multiagency Partnership 7

The planning and implementation of the Healthy Youth Survey is the collaborative effort of many state agencies. The efforts are coordinated though the Joint Survey Planning Committee.

Joint Survey Planning Committee Agencies

Office of the Superintendent of Public Instruction (OSPI)

Division of Alcohol and Substance Abuse, Department of Social and Health Services (DASA/DSHS)

Department of Health (DOH)

Office of Community, Trade and Economic Development (CTED)

Family Policy Council (FPC)

RMC Research Corporation (survey contractor)

8

HYS 2004

A collaborative effort of OSPI, DSHS, DOH, CTED, and FPC.

Simple random sample of schools recruited at state level.

- County samples drawn as appropriate.

Nonsampled schools also invited to participate.

Consistently administered in the fall of even years.

Administered to Grade 6, 8, 10, and 12 students.

Survey booklets have 1-page tear-off answer sheet.

For Grades 8, 10, and 12: 2-form interleaved administration of survey.

9

HYS 2004 Participation

HYS 2004 had the greatest participation of any Washington youth health and risk survey.

Overall

185,095 students

1,013 schools

235 school districts

All 39 counties

Participation in the State Sample

30,263 students

191 schools

107 school districts

35 counties

Survey Questionnaires

For Grades 8, 10, and 12: Form A and Form B. Half of the students receive Form A; the other half receive Form B.

10

Form A: Similar to WSSAHB

Risk and Protective Factor Data

Consistent with CTC and MTF

Development led by DASA and OSPI

- Demographics
- Alcohol, tobacco, other drugs
- School risk and protective factors
- Community risk and protective factors
- Peer-individual-family risk and protective factor

11

Form B: Similar to YRBS

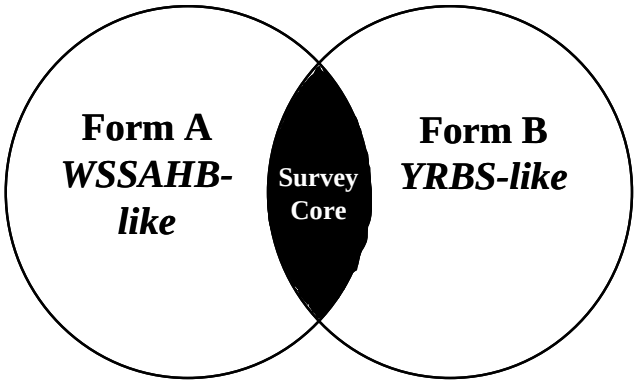
Youth Health Behavior Data

Consistent with YRBS and YTS

Development led by DOH

- Demographics
- Alcohol, tobacco, other drugs
- Nutrition
- Physical activity
- Safety behaviors (helmets, seatbelts)
- Mental health/depression/suicide
- Additional tobacco indicators

12



13

For Grade 6: Form C, a shortened version of Forms A and B combined.

Form C: For Grade 6 students

Core survey items and other mutually agreed-upon items.

14

Core Survey Items

- Demographics
- Alcohol, tobacco, other drugs
- Key violence-related items
- School-specific asset items
- Depression

15

Sources of HYS Items

Nearly all of the HYS items are from established surveys that have been used for years throughout the United States, including:

- Communities That Care (CTC)
- Monitoring the Future (MTF)
- Youth Risk Behavior Survey (YRBS)
- Youth Tobacco Survey (YTS)

Data Processing and Quality Control

16

To ensure the validity and reliability of the data, the Healthy Youth Survey is implemented in accordance with standard administration and data cleaning procedures.

Administration Procedures

17

- Safe and confidential environment.
- Standardized administration procedures (e.g., coordinator training, teacher training, written instructions, teacher stays in room but at desk, single class period to avoid discussion, absent students do not make up).
- Students informed of importance of the survey.
- No student name or other identifying information.
- Students place own answer sheet in envelope.
- Students provided resource list.

Data Cleaning Procedures

18

- Inconsistent answers.
- Evidence of faking high level of substance use.
- Dishonest.
- Wrong grade.

Section 2

Statistical Issues

Learning Objective	Practice interpreting confidence intervals and significance.

Validity and Reliability

20

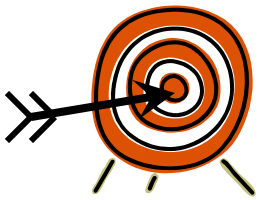
What is validity?

The degree to which the results are likely to be true, believable, and free of bias and can be generalized to a larger population. A survey item is valid if it accurately measures the concept it is intended to measure.

How do we ensure validity?

Using items from establish instruments.

Using validity checks.



What is reliability?

The extent to which a measure, procedure, or instrument yields the same result on repeated trials. A survey item is reliable if it consistently produces the same results under the same circumstances.

How do we ensure reliability?

Standardized administration procedures.

Confidence Intervals

22

What is a confidence interval?

A confidence interval accounts for the fact that the reported value is probably a little different than the "true" value for all your students.

With a 95% confidence interval, we are "95% confident" that the "true" value is within the ± range, called the *confidence interval*.

23

Interpreting Confidence Intervals

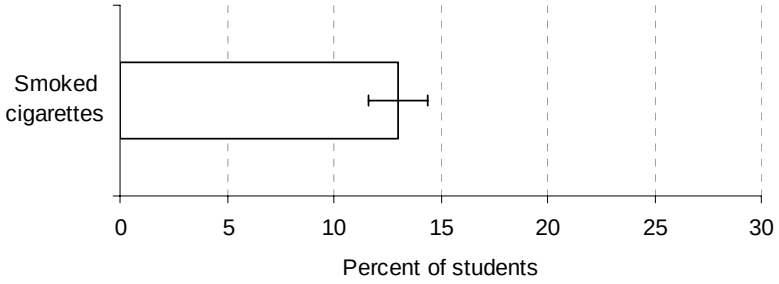
Survey results say *13.0% (± 1.4%) Grade 10 grade students smoked cigarettes*.

13.0 – 1.4 = 11.6

13.0 + 1.4 = 14.4

Interpret as *between 11.6% and 14.4% smoked cigarettes*.

24



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25

Exercise 1
Confidence Intervals

Accounting for statistical variability, determine the highest and lowest percentages for a given survey measure.

Example: What do the statistics suggest are the lowest and highest percentages of students who have been told by a doctor they have asthma?

Turn to Item 89 in your local report (page 17 secondary).

Your estimate:	23.5% ± 6.5%	State estimate:	19.9% ± 1.6%
Your students:	17.0% to 30.0%	Students statewide:	18.3% to 21.5%
	(lowest) (highest)		(lowest) (highest)

Turn to Item 231 in your local report (page 42 secondary, page 23 elementary).

1 What do the statistics suggest are the lowest and highest percentage of students who think that it is "very wrong" for someone their age to smoke cigarettes?

Your estimate:	_____ ± _____	State estimate:	_____ ± _____
Your students:	_____ to _____	Students statewide:	_____ to _____
	(lowest) (highest)		(lowest) (highest)

Turn to the Risk and Protective Factor Scale Results in your local report (page 28 secondary, page 15 elementary).

2 What do the statistics suggest are the lowest and highest percentage of students who are at risk because of low commitment to school?

Your estimate:	_____ ± _____	State estimate:	_____ ± _____
Your students:	_____ to _____	Students statewide:	_____ to _____
	(lowest) (highest)		(lowest) (highest)

27

Why are confidence intervals different sizes?

Number of students.

Inherent variability.

Level of confidence (all 95% for HYS).

Sampling design.

28

Why do we need confidence intervals if data are valid?

Confidence intervals account for *variability* among students, NOT the validity of the data.

Variability is inherent in any population worth studying.

Variability causes uncertainty in the results.

Comparing State and Local Results

What is statistical significance?

The probability that differences in results are not due to chance alone.

When using 95% confidence intervals, a difference between two groups is considered statistically significant if chance could explain it only 5% of the time or less.

Determining Statistical Significance NUMERICALLY

30

Sample of a **significant** difference between state and local data:

- Smoked cigarettes in the state: 13.0% (± 1.4%)
  Interpret as *between 11.6% and 14.4%.*
- Smoked cigarettes at my school: 17.8% **(± 2.2%)**
  Interpret as *between 15.6% and 20.0%.*

Conclusion: The highest value for the state (14.4%) and the lowest value for the school (15.6%) do not overlap; thus *the difference IS statistically significant*.

The only difference is the size of the confidence interval

31

Sample of a **nonsignificant** difference between state and local data:

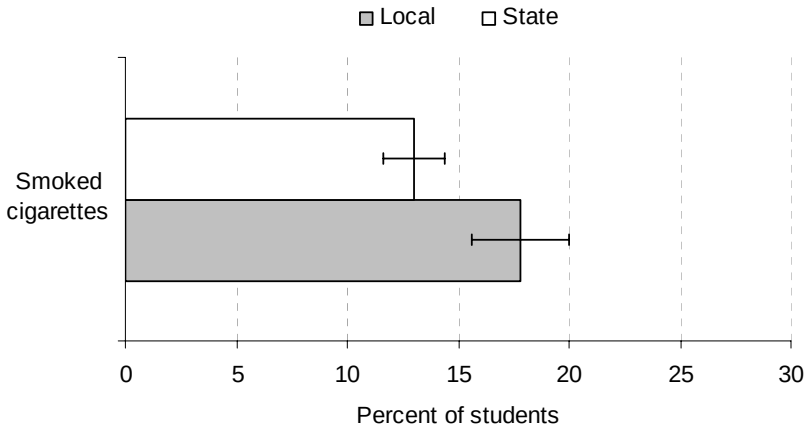
- Smoked cigarettes in the state: 13.0% (± 1.4%)
  Interpret as *between 11.6% and 14.4%.*
- Smoked cigarettes at my school: 17.8% **(± 9.6%)**
  Interpret as *between 8.2% and 27.4%.*

Conclusion: The highest value for the state (14.4%) and the lowest value for the school (8.2%) overlap; thus *the difference is NOT statistically significant*.

Determining Statistical Significance GRAPHICALLY

32

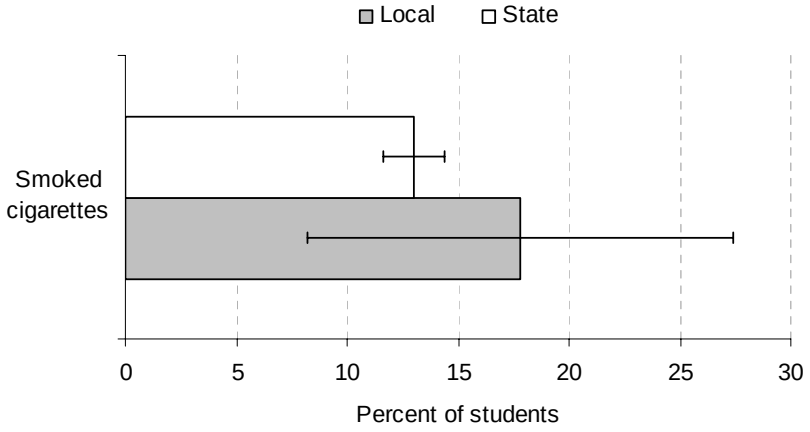
Sample of a **significant** difference between state and local data:



Conclusion: The "dumbbell" or "whisker mark" confidence interval on the state bar and the confidence interval on the local bar DO NOT overlap; thus *the difference IS statistically significant*.

33

Sample of a **nonsignificant** difference between state and local data:



Conclusion: The "dumbbell" or "whisker mark" confidence interval on the state bar is within the confidence interval on the local bar; the confidence intervals DO overlap, thus *the difference is NOT statistically significant*.

Exercise 2
Comparing State and Local Results

Refer to your results from Exercise 1, question 1 (on page 7 of this workbook):

1 Are the differences between your local students and the state statistics statistically significant?

Yes No (circle one)

2 What does this mean for your students?

Refer to your results from Exercise 1, question 2 (on page 7 of this workbook):

1 Are the differences between your local students and the state statistics statistically significant?

Yes No (circle one)

2 What does this mean for your students?

Generalizability

36

What is generalizability?

The extent to which research survey results can be applied to the larger population.

To whom can we generalize results?

- State and county sample.
- Nonsampled counties, districts, and ESDs.
- Schools.

Why 70% participation is important

A high participation rate helps ensure that most of the schools and students eligible to take the survey are represented in the results.

If, however, important groups of students are missing from your data, there may be limitations even if you have a high participation rate.

38

Challenges to generalizability

How could these situations affect generalizability?

How might they affect school-, district-, county-, or ESD-level data?

How do these challenges affect data interpretation?

39

What if you do not want to generalize?

Confidence intervals matter if you want to generalize to a larger population.

- Use confidence intervals if you want to say, "Students said . . . "

You can also describe the students surveyed, in that moment, without confidence intervals.

- You do not need to use confidence intervals if you want to say, "Students who *took the survey* said . . . "

37

Quotations From Teachers Who Administered HYS 2004

"A few students had homework or a test that was pressing for the next period so they chose not to finish the survey but to study."

"The alternate activity involved students leaving the room to visit college representatives. There was no way to police this, so many students left because they wanted to hang out or go home."

"As soon as we read that the survey was voluntary, a huge group of seniors got up and left. They said they did not want to help the school because they were mad at the administrators."

"This survey was given during the last hour on Friday which was also 'crazy hair' day. The student behavior was poor and it may be reflected in their answers."

A Final Note About Significance

40

Even if a difference is statically significant, it might not be practically significant

For example: *State use of some drug: 12.8% (±0.2)*
Local use of that drug: *14.4% (±1.2)*

The difference is statically significant, but is it different enough to influence program planning?

Comparing Data Over Time

42

To consider first:

Did the questions change from the previous survey administrations?

- Items / risk and protective factors.
- Response options.

Were the challenges to generalizability similar?

Is there a reason to think that things would have changed?

- Was a prevention program implemented that might have caused an item to decrease?

Comparing WSSAHB 2000 Data to HYS 2002 and HYS 2004 Data

WSSAHB 2000 reports did not report confidence intervals.

43

HYS 2002 and HYS 2004 reports have confidence intervals.

If you think you have comparable data:

44

- If the 2000 percentage is INSIDE the 2002/2004 confidence interval, then the difference is not statistically significant.
- If the 2000 percentage is OUTSIDE the 2002/2004 confidence interval, then you cannot be sure if the difference is statistically significant, but the further away it is the more likely that a difference is significant.
- If you really need to know whether it is significant, contact DOH for a specialized data run.

Large Confidence Intervals

What if I am in a small school that has huge confidence intervals?

45

Having a confidence interval protects you (and your program) from appearing to be ineffective when just a few students can make big changes.

Consider the input of teachers and staff from small-school environments when interpreting data—the data should be used to complement what they already know about their students.

Section 3

Local Report Overview

Learning Objective	Develop familiarity with the contents of your report.

Types of Reports

Report of Results—Districts, counties, and ESDs with 70% or greater participation.

Report of Participating Schools—Districts, counties, and ESDs with less than 70% participation. A cover letter sent with the reports encouraged caution in generalizing the results and provided a list local schools and their participation rates by grade.

Local Report Contents [48]

Introduction and Overview

- About the survey, number of respondents, key to the notes, highlights.

Graphical Summary of Selected Results

- Graphs of selected 30-day use and selected bullying and school climate results.

Selected Results Disaggregated by Gender

- Results to several key questions displayed separately for females and males.

Item Results

- Results for the survey items, organized by topic.

Risk and Protective Factors: Scale Results

- Risk and protective factor framework and reporting schedule, results for each risk and protective factor scale, and graphs of the risk and protective factor scale results.

Risk and Protective Factors: Individual Item Results

- Results for the survey items that contribute to the risk and protective factor scales.

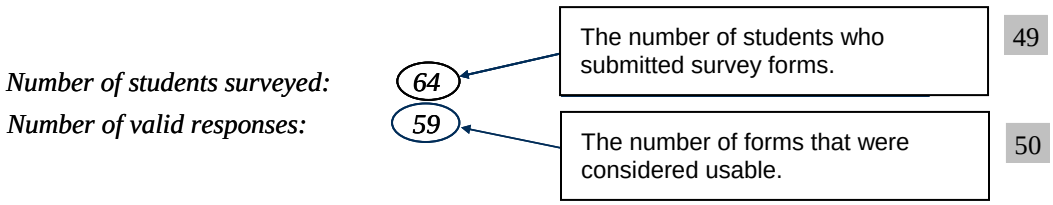
List of Core Items

Item Index

The following information appears on page 1 of all reports:

Healthy Youth Survey 2004
Survey Results

Sample Middle School, Grade 8



Introduction and Overview

The impact of adolescent health risk behaviors remains a primary concern of citizens throughout the country. Many health problems experienced by adolescents are caused by a very few preventable behaviors. Patterns of alcohol, tobacco, and other drug (ATOD) use and related risk behaviors are often formed during adolescence. These patterns play an important role in health throughout adulthood.

This report presents results from the fall 2004 Healthy Youth Survey in Washington State. This survey was sponsored by the Office of Superintendent of Public Instruction; the Department of Health; the Department of Social and Health Services; the Department of Community, Trade and Economic Development; and the Family Policy Council, in cooperation with schools throughout the state of Washington.

For each item, local results appear in the first two columns and statewide results appear in the second two columns. The number of valid responses ("*n*") appears in parentheses for each item. Survey items covering the same topics are grouped together (the item numbering is specific to this report and does not necessarily reflect the item order on the actual survey). The bulleted points and graphs included at the beginning of this report highlight selected findings. Additional information may be found in the *Interpretive Guide* that accompanied this report.

Key to the Notes 51

The survey was administered in 3 versions. Forms A and B were administered to students in Grades 8, 10, and 12. These two forms contained a core set of common items (see "List of Core Items" on the last page of this report) and additional items unique to each form. Form C was administered to students in Grade 6. This form consisted primarily of items drawn from Forms A and B but also included some unique items. Several items on each form were optional at the discretion of the school; schools that did not administer the optional items tore off the last page of the survey booklet. The following notes are used throughout this report to document the differences between the items on different versions and indicate the optional items:

A = wording on Form A
B = wording on Form B
C = wording on Form C
† = optional item

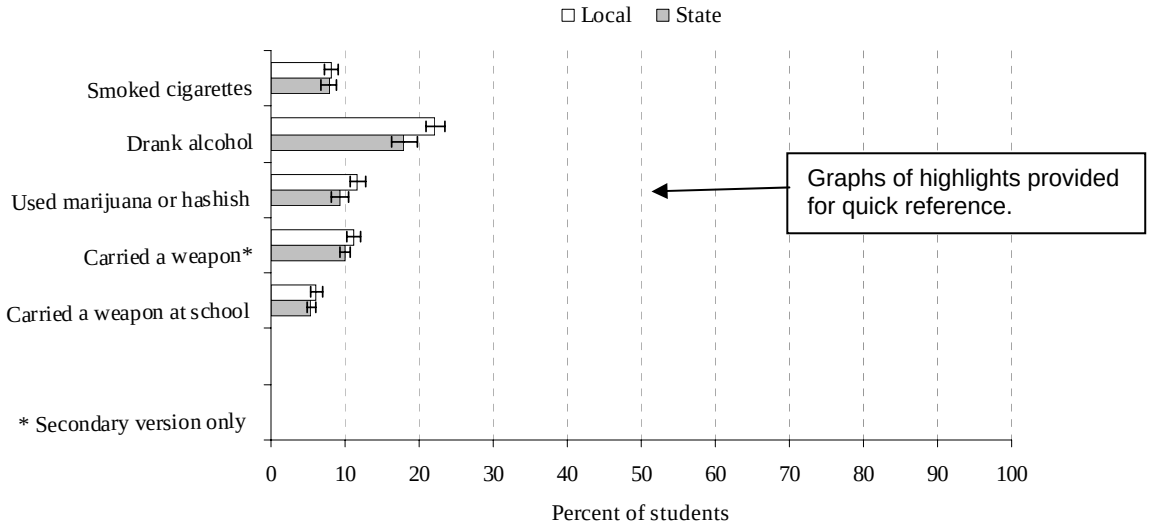
The following information appears on page 2 of all reports: 52

- All reports include the same items.
- Graphs match items.
- Items and graphs are the same as in HYS 2002 reports.

Highlights of the Local Results ← Summary highlights provided for quick reference. This information is detailed later in the report.

	Your students		Statewide	
Smoking cigarettes in the past 30 days (see item 24).	8.1%	(± 1.0%)	7.8%	(± 1.0%)
Drinking alcohol in the past 30 days (see item 30).	22.2	(± 1.4)	18.0	(± 1.8)
Using marijuana or hashish in the past 30 days (see item 31).	11.7	(± 1.0)	9.2	(± 1.2)
Carrying a weapon in the past 30 days (see item 114).	11.2	(± 1.0)	10.0	(± 0.8)
Carrying a weapon at school in the past 30 days (see item 115, 116).	6.1	(± 0.8)	5.4	(± 0.6)
Being bullied in the past 30 days (see item 135).	27.6	(± 1.6)	28.6	(± 1.6)
Enjoyed being in school over the past year (see item 200).	45.6	(± 1.6)	45.5	(± 1.8)
Feeling safe at school (see item 211).	76.5	(± 1.4)	81.3	(± 2.2)

Substance Use and Weapon Carrying in the Past 30 Days



Graphs of highlights provided for quick reference.

The following information appears on page 3 of all reports: 53

- Same as in HYS 2002 reports.
- Results suppressed to protect anonymity.

Selected Results by Gender

Selected items are presented by gender to highlight any differences between females and males. The p-values reported after each item can be used to examine whether differences in the local data between females and males are statistically significant. To ensure student anonymity, local results are suppressed for each item on this page if any cell (e.g., females who reported smoking) represented fewer than 15 students.

During the past 30 days, on how many days did you smoke cigarettes? (see item 24)	Local (n = *)		State (n = 8,199)	
	Female	Male	Female	Male
None	*.*%	*.*%	91.8%	92.8%
1 or more	*.*	*.*	8.2	7.2

Note. p = * from a chi-square test.

Numbers suppressed to protect anonymity. Must have at least 15 respondents per cell.

During the past 30 days, on how many days did you drink a glass, can or bottle of alcohol (beer, wine, wine coolers, hard liquor)? (see item 30)	Local (n = 100)		State (n = 8,194)	
	Female	Male	Female	Male
None	76.5%	79.2%	80.2%	83.8%
1 or more	23.5	20.8	19.8	16.2

Note. p = .041 from a chi-square test.

If p = less than .05 the difference between local males and local females is statistically significant

Other Results by Gender

Think back over the last 2 weeks. How many times have you had five or more drinks in a row? (A drink is a glass of wine, a bottle of beer, a shot glass of liquor, or a mixed drink.) (Item 61)

During the past l2 months, did you ever feel so sad or hopeless almost every day for two weeks or more in a row that you stopped doing some usual activities? (Item 125)

In the last 30 days, how often have you been bullied? (Item 135)

I feel safe at my school. (Item 211)

54

Why asterisks instead of numbers for results by gender?

To produce results by gender a minimum of 15 respondents is needed in each cell (e.g., females who reported smoking)

The number in each cell is dependent on two factors:

- The proportion of females and males
- The proportion of students giving each response

55

Smallest n Example:

A minimum n=60 is needed if

50% of the local respondents are female and 50% are male
50% X 60 = 30 females
50% X 60 = 30 males

50.0% of females smoke 1 or more and 50.0% of males smoke 1 or more
50.0% X 30 = 15 females
50.0% X 30 = 15 males

n=60	% in each cell		n in each cell	
	Female	Male	Female	Male
None	50%	50%	15	15
1 or more	50%	50%	15	15

56

Realistic Example:

A minimum n=500 is needed if

60% of the local respondents are female and 40% are male
60% X 500 = 300 females
40% X 500 = 200 males

8.0% of females smoke 1 or more and 7.5% of males smoke 1 or more
8.0% X 300 = 24 females
7.5% X 200 = 15 males

n=500	% in each cell		n in each cell	
	Female	Male	Female	Male
None	82.0%	82.5%	276	185
1 or more	8.0%	7.5%	24	15

Item Grouping 57

The results from each survey item are grouped in the following order:

- General information.
- Alcohol, tobacco, and other drug use.
- Other health concerns.
- School climate.
- Quality of life
- Risk and protective factor items.

Example of an item result (Grade 8, 2004) 58

		Local (n = 200)		State (n = 5,766)	
38.	If one of your best friends offered you a cigarette, would you smoke it?				
	a. Definitely no	63.3%	(± 4.3%)	67.8%	(± 2.4%)
	b. Probably no	14.2	(± 2.9)	13.2	(± 0.8)
	c. Probably yes	13.0	(± 2.9)	10.5	(± 1.0)
	d. Definitely yes	19.5	(± 2.7)	8.5	(± 1.4)

59

Why is item *n* less than Overall *n*?

Not a core item (Grades 8, 10, 12).

Optional item on the tear-off portion of the survey; look for the † symbol.

Students did not reach item near end of survey.

Students skipped or did not mark clearly.

60

Why asterisks on item results instead of numbers?

No students responded (n = 0).

Overweight (Item 64) was suppressed to protect anonymity.

Risk and Protective Factors 61

Included with the item results are information about Risk and Protective Factor scales including:

Framework and reporting schedule.

Scale results. (Different order from HYS 2002. Standardized to be consistent in future.)

Graphs.

Item results.

Last Page of the Report 62

The last page of the 8th, 10th and 12th grade reports contains a List of Core Items. This list can help interpret *n*'s.

List of Core Items

The core items that appeared on both Forms A and B (the secondary versions of the survey) are listed below. All other items appeared on either Form A or Form B, but not both. Core items may or may not have appeared on Form C (the elementary version).

Item	*Description*
1	Age
3	Gender
4	Race/Ethnicity
5	Language spoken at home
7	Father's education
8	Mother's education
11	Honesty in completing survey
13	Lifetime use of cigarettes
15	Lifetime use of alcohol
16	Lifetime use of marijuana
24	30-day use of cigarettes
25	30-day use of chewing tobacco
30	30-day use of alcohol
31	30-day use of marijuana or hashish
32/33	30-day use of illegal drugs
34	30-day use of methamphetamines
35	30-day use of Ecstasy or MDMA
36	30-day use of Ritalin

Item	*Description*
38	Would smoke if offered cigarette by a friend
39	Intent to smoke within the next year
40	Age when first smoked a cigarette
61	Binge drinking (past 2 weeks)
62	Drunk or high at school (past 12 months)
114	Weapon carrying (past 30 days)
115	Weapon carrying on school property (past 30 days)
117	Physical fighting (past 12 months)
125	Depression (past 12 months)
135	Been bullied (past 30 days)
195	Grades in school (past 12 months)
200	Enjoyed being in school (past 12 months)
207	Have opportunities for involvement at school
211	Feel safe at school
217	Age when first smoked marijuana
220	Age when first drank alcohol
231	Perceived wrongness of smoking

All reports end with an Item index with page numbers for specific topics

Item Index

Section 4

Using Your Data to Inform Your Program

Learning Objective	Practice finding data and applying data in a program planning or evaluation context.

Program Planning Models

65

State and federal agencies may use different terminology to describe effective program planning and evaluation models, but essentially different models address the same key questions:

- What is the problem?
- What is the priority?
- What do we do about it?
- How do we know if it worked?

The table on the next page provides a cross-reference of common program models found in Washington and how each addresses these key questions.

Using Data for Setting Program Priorities

66

"It's getting worse/better."

Trend over time increasing, so we should stop it now.

Trend over time is decreasing, so we should jump on that trend.

"It's just bad."

Even one youth suicide attempt is too many.

"It's worse than average."

Our rates are greater than the state average.

67

"We have an opportunity."

There is money or possibility of money.

There is an obvious fix or a good intervention available.

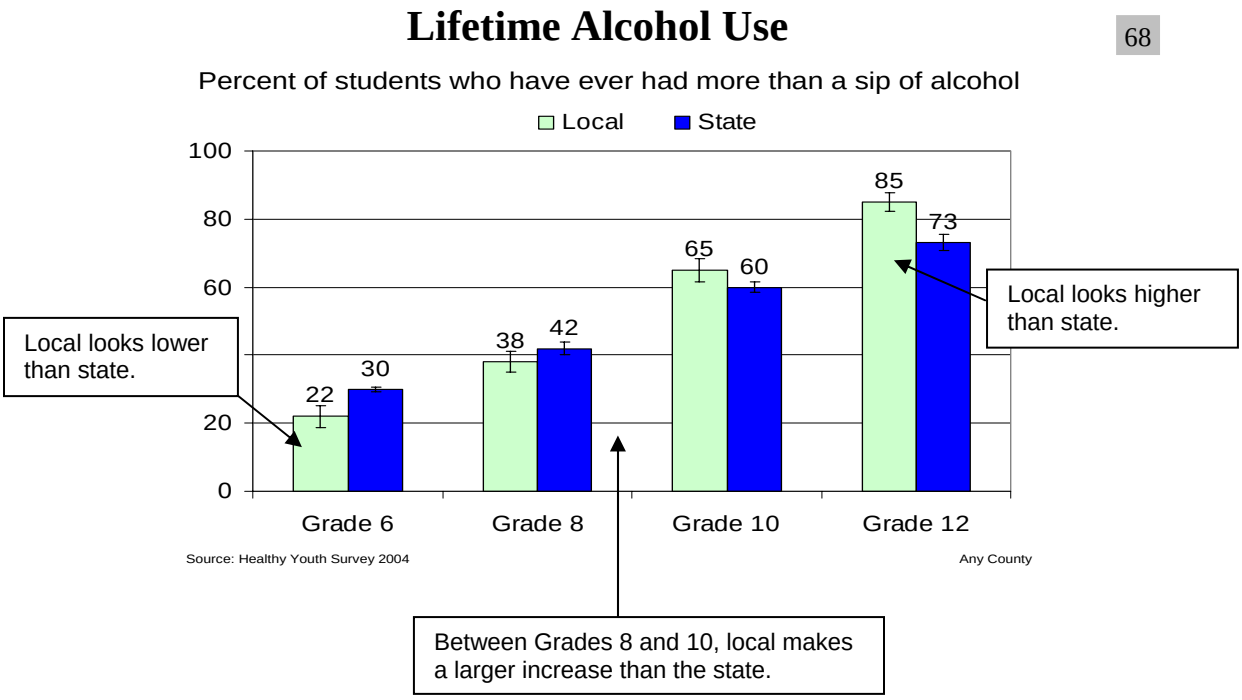
The community just wants to do it.

Program Planning Models

Question	School Improvement Planning Tool Stages	Western CAPT Program Planning	Principles of Effectiveness	CDC Framework for Program Evaluation in Public Health	CDC Planned Approach to Community Health PATCH
What is the problem?	Step 1: Assess readiness to benefit Step 2: Collect, sort, and select data	Step 1: Readiness assessment Steps 2 and 4: Needs assessment (community and resource assessments)	Needs assessment Analysis of risk and protection	Step 1: Engage stakeholders Step 3: Focus the evaluation design	Mobilizing the community Collecting and organizing data
What is the priority?	Step 3: Build and analyze portfolio Step 4: Set and prioritize goals	Step 3: Prioritizing Step 5: Target population	Setting measurable goals and objectives	Step 4: Gather credible evidence	Choosing health priorities
What to do about it?	Step 5: Study and select best practices Step 6: Craft action plan Step 7: Monitor implementation of the plan	Step 6: Best practices	Programs on scientific research Parental involvement	Step 2: Describe the program	Developing a comprehensive intervention plan
How to know if it worked?	Step 8: Evaluate the plan's impact on student achievement	Step 7: Evaluate	Evaluation	Step 5: Justify conclusions Step 6: Ensure use and share lessons learned	Evaluation
For more information planning model:	http://www.k12.wa.us/sip/SIPGuide.pdf	http://www.unr.edu/westcapt/bestpractices/index.htm		http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/rr4811a1.htm	http://www.cdc.gov/nccdphp/patch/

How Data Tell You "What to do about it"

Graphs, such as the following graph, were sent to all participating schools, districts, and counties. These graphs can be used to compare state and local results.



Setting a Good Objective with Data

69

Setting an objective for a program is a good way to communicate with stakeholders about what can be reasonably expected to happen if the program is successful. Many grants require objectives for program work plans.

When setting an objective with your data:

Describe a target audience (grade level, gender, universal or selective approaches).

Write SMART objectives:

- Specific
- Measurable
- Achievable
- Relevant
- Time-bound

Be clear about *absolute* versus *relative* percentage change.

Reality checks:

- Calculate the number of students who will need to change to meet the objective.
- Think about confidence intervals and whether you can measure that kind of change.

Example of setting a good objective:

70

You have 1,000 students.

The current smoking prevalence is 25%.

Your SMART objective:

"By 2006, we will implement a comprehensive tobacco prevention program and reduce current smoking among our school's students by 10%, to 22.5% or less."

Reality checks:

- This translates into about 25 fewer smokers—is that reasonable?
- Think about your confidence intervals; is there a real likelihood of measuring this kind of change?

Components of a SMART objective:

75 - Time-bound: "**By 2006**"

73 - Achievable: "**we will implement a comprehensive tobacco prevention program** and **reduce current smoking**"

74 - Relevant: "**tobacco prevention program** and reduce current **smoking among our school's**"

71 - Specific: "**current smoking** among **our school's 10th grade students**"

72 - Measurable: "**by 10% to 22.5% or less (2004 baseline: 25%)**"

Calculating "Percent Fewer"

76

"By 2006 there will be 10% fewer smokers."

Are you referring to an *absolute* or *relative* percentage rate of change?

For example, if you have 25% smokers now:

- **Absolute Change**

  77

  You mean that there will be **15%** smokers in 2006.

  Calculated by subtracting the percent fewer (10%) from your original rate (25%)

  25% - 10% = 15%

- **Relative Change**

  78

  You mean that there will be **22.5%** smokers in 2006.

  Calculated by multiplying the percent fewer (10%) times your original rate (25%). Then subtract that number (2.5%) from your original rate (25%).

  25% X 10% = 2.5%

  25% - 2.5% = 22.5%

How Data Tell You if "it worked": Program Evaluation

79

Evaluation provides an easy way to determine whether the program activities you are implementing are producing the outcomes you want or expect to achieve.

Think about:

- What do I do when I go to work every day?
  and then what happens?
  and then what happens?
  so that the WHY of going to work every day happens.

Use a logic model to describe the relationship between your activities and outcomes. See the sample logic model on the next page.

Ways to Evaluate

81

Look at the objective you set earlier.

Did you meet it?

Make basic comparisons:

What actually happened? Was it different than if you had done nothing?

- Compare the school to itself over time.
- Compare the school to the state.
- Compare the school to the state over time.

Make more complex comparisons:

What happened to the same group of students as they aged? Cohort comparisons:

- Compare the class of 2006 to the class of 2008. Examine how things changed between their Grade 8 and Grade 10 years.

Additional Evaluation Resources

WK Kellogg Foundation Logic Model Development Guide
http://www.wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf

Centers for Disease Control and Prevention Evaluation Working Group and Framework
http://www.cdc.gov/eval/framework.htm

Community Health Worker Evaluation Toolkit (University of Arizona)
http://www.publichealth.arizona.edu/chwtoolkit/PDFs/Evalua/evalua.pdf

Community Toolbox (University of Kansas)
http://ctb.ukans.edu/

Logic Model

Statement of the Problem: Unacceptable Tobacco Use Rates among Youth
Strategy: Strengthen/enforce no tobacco policies for youth

Read a logic model from left to right as "if…then..."

Inputs *Resources needed to operate your program*	**Activities** *With access to the inputs, you can do your program*	**Outputs** *The amount of products or services delivered by your program activities*	**Short-term Outcomes** *Early changes as a result of your program (1-3 yrs)*	**Intermediate Outcomes** *Changes as a result of your program (4-6 yrs)*	**Long-term Outcomes** *Changes as a result of your program (7-10 years)*
• Funding from DOH tobacco program • P&I program • Existing state laws and school policy • Staff, admin, parent, project advisory board	• Policy improvement committee to develop better enforcement procedures • Create support structures for youth caught with tobacco • Train staff to conduct effective interventions • Promote new policy	• New written procedures for policy enforcement (school & community policy guides) • # of youth cited (enforcement logs) • # of students referred to P&I services (P&I 'bubble sheets')	• Increased perception that 'no tobacco' policies are enforced • Decreased tobacco use on school property	• Decreased perceived availability of tobacco among youth • Decreased perceived acceptability among adults of youth tobacco use	• Decreased current tobacco use among youth • Decreased lifetime tobacco use among youth

Exercise 3
Using Your Data to Inform Your Program

You are a team of "Healthy School" advocates. Two years ago, just after HYS 2002, your school implemented an aggressive tobacco-free school policy effort. The logic model on page 27 of this workbook describes your effort.

You wonder if your program was successful. You have ruled out potential problems with your data and outside influences such as:

- Similar schools participated in the survey
- Response rates were similar
- Survey question on tobacco use on school property did not change
- There were no other groups working to improve school policies

Use the Healthy Youth Survey data provided in the evaluation grid on the next page to help evaluate the outcome of your program and use the results to answer the following questions:

1 What happened in your community? Was it different than what you expected? (For example, did it change over time, is it different than the state? different for age groups?)

2 What will you do with your program next year based on your findings? (For example, use priority-setting tests?)

Exercise 3 Program Evaluation Grid

Short-term Outcome Measures	Grade	Local 2002	Local 2004	State 2002	State 2004
Tobacco use on school property (percentage who reported using any type of tobacco on school property during the past 30 days). Page 10, item #46 on 2004 reports.	8th	6.8 ±2.0	3.0 ±1.0	3.8 ±0.6	4.1 ±0.8
	10th	10.0 ±3.0	11.0 ±2.0	8.0 ±1.4	7.7 ±1.0
	12th	13.0 ±3.0	11.0 ±2.0	10.2 ±1.4	10.1 ±1.6
Rules about tobacco use on school property are usually enforced (percentage who reported rules are "definitely" enforced). Page 10, item #45 on 2004 reports.	8th	*	59.0 ±5.0	*	38.9 ±2.5
	10th	*	20.0 ±3.0	*	21.2 ±2.5
	12th	*	22.0 ±3.0	*	23.5 ±2.9

Using the data provided look at the changes overtime and compare local and state results:

1. Local change over time

   Determine the significance of the local change from 2002 and 2004 among 8th graders.

Local 2002	Local 2004
6.8 ±2.0	3.0 ±1.0

Calculate range

- Local 2002 low and high = 4.8 to 8.8
- Local 2004 low and high = 2.0 to 4.0

The low end of the 2002 local range 4.8%
and the high end of the 2004 local range 4.0%
do not overlap, so the difference is statistically significant

Among 8th graders the decrease in tobacco use on school property from 2002 to 2004 is statistically significant

Compare state to local in 2002

Determine the significance of the difference between local and state results in 2002 among 8th graders.

Local 2002	State 2002
6.8 ±2.0	3.8 ±0.6

Calculate range

- Local 2002 low and high = 4.8 to 8.8
- State 2002 low and high = 3.2 to 4.4

The low end of the 2002 local range 4.8%
and the high end of the 2002 state range 4.4%
do not overlap, so the difference is statistically significant

In 2002, local use of tobacco on school property among 8th graders was significantly higher than the state

Compare state to local in 2004

Determine the significance of the difference between local and state results in 2004 among 8th graders.

Local 2004	State 2004
3.0 ±1.0	4.1 ±0.8

Calculate range

- Local 2004 low and high = 2.0 to 4.0
- State 2004 low and high = 3.3 to 4.9

The low end of the 2004 state range 3.3%
and the high end of the 2004 local range 4.0%
overlap, so the difference is NOT statistically significant

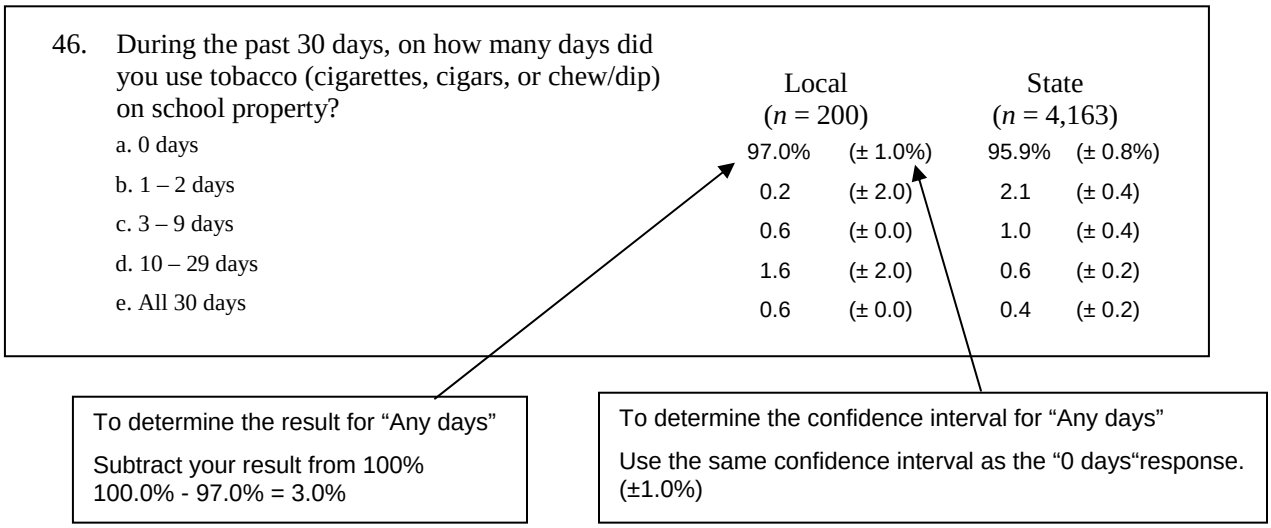
In 2004, local use of tobacco on school property among 8th graders was the same as the state

Combining Item Responses

86

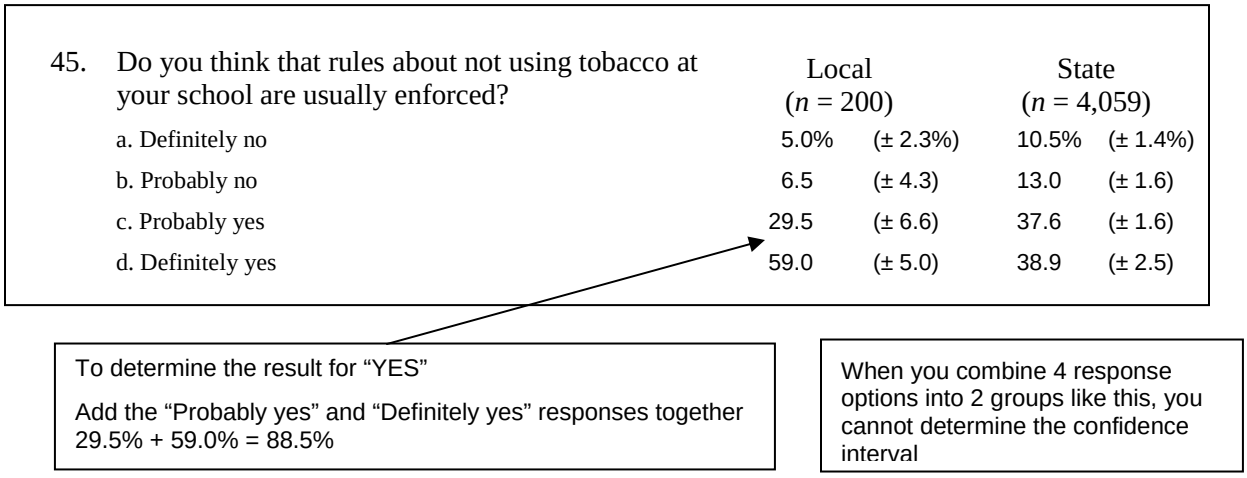
When looking at changes, sometimes it is useful to combine the item response options:

Example 1: Combine responses of those who used tobacco on school property to "Any days"



87

Example 2: Combine responses of those who think rules are enforced to "No" and "Yes"



Section 5

Using Your Data to Communicate

Learning Objective	Practice developing a communication message using a message map and delivery of a message.

Nuts and Bolts of Data Communication

Simplify so that your audience can understand the numbers: 90

Round percentages to whole numbers:

17.0% to 17.4% becomes 17%
17.5% to 17.9% becomes 18%

Use language that acknowledges these percentages are estimates:

"about 17%"
"14 to 20%"
"plus or minus 3%"

Use the correct terminology:

The term *data* is plural:

"the data *were* [not *was*] collected"

The term *datum* is singular.

91

Consider different ways of presenting the data:

Instead of saying “17.2% ± 3.2% youth said that they ‘mostly’ or ‘definitely’ felt unsafe at school”

You could say “about 17% of our youth feel unsafe in school”
or “about 1 in 6 youth feel unsafe in school”

And remember that you can present data positively:

“about 83% of our youth feel SAFE in school”
“About 5 out of 6 youth feel SAFE in school”

92

If you had a low response rate for your survey, instead of saying “students said”

It would be best to say “students who took the survey said”

93

Consider what messages are appropriate for communicating with different people, and how data fit into your message:

- Your boss’s boss’s boss’s boss.
- Your coworkers.
- Your neighbor at a dinner party.
- Your grandmother.

Communication Planning

Have a clear message using a “message map.”

94

Single Overriding Communication Objective (SOCO):

- The “so what” of your message.
- Meaningful to your target audience.
- Tells them what you want them to learn or do.

What does a SOCO look like?

- For broadcast media: 10- to 12-word sound bite.
- For print media: 1- to 3-line quotation.
- For real people: 3 or 4 ideas—most people will not remember more than that.

Details 95

- Provide logical justification for your SOCO.
- These are the *reasons why*.

Facts

- These are the evidence for your details.
- Use your data here.

Sample SOCO and message map 97

The state Tobacco Prevention & Control program used the following SOCO in a recent press release and legislative report

Single Overriding Communications Objective (SOCO): Our program has been successful in reducing youth smoking [and we should keep funding it]		
Detail 1 Fewer youth are smoking than prior to the program	**Detail 2** Fewer youth have ever tried smoking	**Detail 3** Washington continues to be ahead of the nation in achieving lower youth smoking rates.
Fact 1 57% fewer 6th graders	Fact 1 25% fewer 6th graders	Fact 1 8th grade 2004 MTF 9.2
Fact 2 49% fewer 8th graders	Fact 2 37% fewer 8th graders	Fact 2 10th grade 2004 MTF 16.0
Fact 3 48% fewer 10th graders	Fact 3 36% fewer 10th graders	Fact 3 12th grade 2004 MTF 25.0
Fact 4 44% fewer 12th graders	Fact 4 29% fewer 12th graders	

Exercise 4
Using Your Data to Communicate

You are a team of "Healthy School" advocates who have been seeking opportunities to increase support for early prevention programs among youth.

Using data provided on the next page and data from your own report, practice talking about Healthy Youth Survey results in one or more of the scenarios. Use the message maps on the following pages. Be prepared to share at least one of your messages.

A The school board has invited your team to talk with them and make your case about the need for more early prevention programs among youth.

B The son of a prominent city council member was arrested for drunk driving. He attends the local high school. A radio station calls and asks you to provide a sound bite about substance use among youth in your community.

C A local agency is offering funds for programs that support youth. Support your grant application for an alcohol prevention program.

Exercise 4 Data

HYS Question	Grade	2004 State	2004 Local
Current alcohol use among students (percentage who reported any alcohol use within the past 30 days). Item #30 in 2004 report	6th	4.4 ±0.6	4.0 ±1.0
	8th	18 ±1.8	20.0 ±2.0
	10th	32.6 ±1.6	30.0 ±3.0
	12th	42.6 ±2.4	35.5 ±3.0
Grade 6: Ever in lifetime ridden in car with someone who was drinking alcohol (percentage who reported "yes"). Item #109 in 2004 report	6th	22.6±1.4	21.0±2.0
Grades 8, 10, and 12: Recent riding in car with someone who was drinking alcohol (percentage who report any times in the past 30 days). Item #108 in 2004 report	8th	18.5 ±1.6	20.0 ±2.0
	10th	23.9 ±1.8	32.0 ±2.0
	12th	24.5 ±2.7	34.0 ±3.0
Recent driving while drinking alcohol (percentage who reported any driving while drinking in the past 30 days). Item #110 in 2004 report	6th	*	*
	8th	4.3 ±0.8	4.0 ±1.0
	10th	6.4 ±0.8	15.0 ±1.8
	12th	14.3 ±2.0	19.0 ±2.8
Perceived harm of regular alcohol use among youth (percentage who reported believing there is "great risk" in drinking 1 or 2 drinks nearly every day). Item #216 in 2004 report	6th	29.3 ±1.4	40.0 ±3.0
	8th	30.5 ±1.8	31.0 ±3.0
	10th	30.6 ±1.8	22.0 ±2.0
	12th	29.7 ±2.2	20.0 ±2.0

Exercise 4 Message Map

Single Overriding Communications Objective (SOCO):

Detail 1	**Detail 2**	**Detail 3**
Fact	Fact	Fact
Fact	Fact	Fact
Fact	Fact	Fact

101

Potential Traps
Including information that is not relevant to your SOCO.
Including information that is relevant, but goes beyond what you NEED (too much detail).
Speculating beyond the data.
Treating nonsignificant or unimportant differences as significant.
Forgetting to double-check your results or the math.
Being afraid to say "I don't know."
Overusing graphics or using graphics that distort the numbers.
Talking about numbers instead of the people they represent.

102

Helpful Tips
Use a message map or other message plan.
Ask someone you trust critique your message for accuracy and understandability.
Double check the math.
Practice saying everything, including the numbers, aloud.
Practice saying "I don't know, but I can get back to you about that."
Be prepared to discuss the limitations of your data.
Speak with clarity and compassion.
Stay on message.

103

Stay on message. The answer to every question is your SOCO.

"That's an interesting point, but what I'd really like people to know is [my SOCO]"

104

Final Thought about Communication & Data

- Don't flip through your report looking for the story – have a story to tell and use your report to do that
- If your story is "we have great data to describe our kids" then use the HYS slide sets provided to give your audience data highlights

Section 6

Obtaining More Information

Web Sites

RMC Research Corporation
http://www.rmccorp.com/hys04/

Department of Health
http://www3.doh.wa.gov/HYS/

Sponsoring Agencies and Primary Contacts

Office of Superintendent of Public Instruction
Martin Muller
360-725-6050

Department of Health
Judy Schoder
360-236-3520

Department of Social and Health Services
Steve Smoothers
360-438-8066

Department of Community, Trade and Economic Development
Susie Roberts
360-725-3035

Family Policy Council
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